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## THE EFFECT OF TEMPERATURE AND ANTIFUNGAL SUPPLEMENTATION ON FUNGAL GROWTH IN OPTISOL-GS

Fiscella RG, Tu E, Fothergill A, et al. The effect of temperature and antifungal supplementation on fungal growth in optisol-GS. Invest Ophthalmol & Vis Sci. 2010;51:1164.

**Conclusions:** AMB in Optisol-GS was rapidly fungicidal against each of the Candida species. Caspo in Optisol-GS was rapidly fungicidal against *C. albicans* and slowly fungicidal for the other Candida species. RT storage of Optisol-GS does not increase fungal load within first 12 hours and augments fungicidal activity of supplemented AMB and Caspo.

## REPORT OF THE EYE BANK ASSOCIATION OF AMERICA MEDICAL ADVISORY BOARD SUBCOMMITTEE ON FUNGAL INFECTION AFTER CORNEAL TRANSPLANTATION

Aldave AJ, DeMatteo J, Glasser DB, et al. Report of the eye bank association of America medical advisory board subcommittee on fungal infection after corneal transplantation. Cornea 2013;32:149-154.

**Conclusions:** Although a nonsignificant increasing trend in the rate of fungal infection has been observed over the past 6 years, it is not sufficiently compelling to pursue antifungal supplementation of donor storage media.

## TIME COURSE OF ANTIBIOTIC AND ANTIFUNGAL CONCENTRATIONS IN CORNEAL ORGAN CULTURE

Seiler TG, Tschopp S, Zimmerli S, et al. Time course of antibiotic and antifungal concentrations in corneal organ culture. Cornea 2016;35:127-131.

**Conclusion:** Amphotericin B and streptomycin retained approximately 60% of the original concentration to the end of the (28 day) experiment

## REPORT OF THE EYE BANK ASSOCIATION OF AMERICA MEDICAL REVIEW SUBCOMMITTEE ON ADVERSE REACTIONS REPORTED FROM 2007 TO 2014

Edelstein SL, DeMatteo J, Stoeger CG, et al. Report of the eye bank association of America medical review subcommittee on adverse reactions reported from 2007 to 2014. Cornea 2016;35:917-926.

**Conclusions:** PGF was the most commonly reported adverse reaction, disproportionately associated with EK. An increasing trend in the rate of endophthalmitis and keratitis was observed, disproportionately associated with EK and Candida species.



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## INFECTIONS WITH EK PROCEDURES RISING

Michelle Dalton, ELS. Infections with EK Procedures Rising. Ophthalmol Times July 19, 2017. In: <https://www.ophtalmologytimes.com/understanding-antibiotic-resistance/infections-ek-procedures-rising>

**Conclusion:** Discussion around the incidence and risks around the higher apparent risk of EK postoperative fungal infections when compared with PK

## ASSOCIATION BETWEEN FUNGAL CONTAMINATION AND EYE BANK–PREPARED ENDOTHELIAL KERATOPLASTY TISSUE

Brothers KM, Shanks RMQ, Hurlbert S, et al. Association between fungal contamination and eye bank–prepared endothelial keratoplasty tissue: Temperature-dependent risk factors and antifungal supplementation of optisol–gentamicin and streptomycin. JAMA Ophthalmol. 2017;135:1184-1190

**Conclusion:** Detectable Candida growth in donor rim cultures, associated with a higher rate of post keratoplasty infection, is seen in endothelial keratoplasty tissue vs other uses at the time of transplantation, likely owing in part to eyebank preparation processes extending the time of tissue warming. Reduced room temperature incubation and the addition of antifungal agents decreased growth of Candida species in optisol-GS and should be further explored to reduce the risk of infection.

## AMPHOTERICIN B SUPPLEMENTATION OF COLD STORAGE MEDIA TO TREAT FUNGAL CONTAMINATION OF DONOR CORNEA TRANSPLANT TISSUE

Kaufman SC, Rhee M. Amphotericin B supplementation of cold storage media to treat fungal contamination of donor cornea transplant tissue. Int J of Eye Bank. 2019; 7: 1-5.

**Conclusion:** Amphotericin B 0.255 µg/mL was effective at reducing the number of fungal colony counts in cold cornea storage media but did not eliminate viable Candida organisms.

## ANTIMYCOTIC EFFICACY AND SAFETY OF A NEW COLD CORNEAL STORAGE MEDIUM BY TIME-KILL AND TOXICITY STUDIES

Giurgola L, Gatto C, Parel JM, et al. Antimycotic efficacy and safety of a new cold corneal storage medium by time-kill and toxicity studies. Cornea 2019;38:1314-1321.

**Conclusions:** Kerasave (supplemented with 2.5 µg/mL of ampho B) showed high antifungal efficacy against susceptible fungal strains at 4°C in the presence and absence of corneal tissue. Resistant strains to amphotericin B were not eliminated by Kerasave. Kerasave is not cytotoxic, irritating, or sensitizing.



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## EFFICACY AND SAFETY OF VARIOUS AMPHOTERICIN B CONCENTRATIONS ON CANDIDA ALBICANS IN COLD STORAGE CONDITIONS

Tran KD, Aldrich BT, D'Amato Tóthová J, et al. Efficacy and safety of various concentrations of *Candida albicans* in cold storage conditions. *Cornea* 2020;39:110-117

**Conclusion:** Optimal efficacy of amphotericin B against *C. albicans* is achieved in cold storage conditions at concentrations  $\geq 1.25$   $\mu\text{g/mL}$ , and 2.5  $\mu\text{g/mL}$  reduces *Candida* contamination by  $>90\%$  after 6 hours of cold storage without sacrificing CEC health.

## EFFICACY OF AMPHOTERICIN B IN CORNEAL PRESERVATION MEDIA AFTER EXTENDED FROZEN STORAGE

Huh D, Tran KD, Straiko MMW, et al. Efficacy of amphotericin B in corneal preservation media after extended frozen storage. *Cornea* 2020;39:1274-1277

**Conclusions:** Previously frozen amphotericin B remains highly effective against *C. albicans*. Optisol-GS supplemented with 2.5  $\mu\text{g/mL}$  amphotericin B that was frozen for 4 weeks at  $-20^{\circ}\text{C}$  resulted in  $>90\%$  CFU reduction by 6 hours and  $>99\%$  reduction by 72 hours.

## PERFORMANCE OF NEW HYPOTHERMIC CORNEAL STORAGE MEDIA WITH AN ANTIMYCOTIC TABLET IN COMPARISON TO TRADITIONAL HYPOTHERMIC MEDIA DURING SIMULATED EYE BANK PROCESSING

Perry I, Peterson K, D'Amato Tóthová J, et al. Performance of New Hypothermic Corneal Storage Media With an Antimycotic Tablet in Comparison to Traditional Hypothermic Media During Simulated Eye Bank Processing. *Cornea* 2020;39:1031-1039

**Conclusions:** Metrics of corneas stored in Kerasave and Optisol-GS were comparable. Kerasave (supplemented with 2.5  $\mu\text{g/mL}$  concentration of ampho B) might be considered an antifungal-possessing alternative to Optisol-GS.

## STABILITY OF AMPHOTERICIN B AND NYSTATIN IN ANTIFUNGAL MOUTHRINSES CONTAINING SODIUM HYDROGEN CARBONATE

Groeschke J, Solassol I, Bressolle F, Pinguet F. Stability of amphotericin B and nystatin in antifungal mouthrinses containing sodium hydrogen carbonate. *J Pharm Biomed Anal.* Sep 26 2020;42:362-366

**Conclusion:** At 4 degrees C, amphotericin B and nystatin were stable for 15 days in polypropylene. When stored in polypropylene at room temperature, with or without light protection, amphotericin B and nystatin were stable for 3 and 4 days, respectively.